

PATENT COOPERATION TREATY

PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference 12316450	FOR FURTHER ACTION	see Notification of Transmittal of International Search Report (Form PCT/ISA/220) as well as, where applicable, item 5 below.
International application No. PCT/AU03/01040	International filing date (<i>day/month/year</i>) 15 August 2003	(Earliest) Priority Date (<i>day/month/year</i>) 15 August 2002
Applicant THE CORPORATION OF THE TRUSTEES OF THE ORDER OF THE SISTERS OF MERCY IN QUEENSLAND <i>et al.</i>		

This international search report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This international search report consists of a total of 6 sheets.

☒ It is also accompanied by a copy of each prior art document cited in this report.

1. Basis of the report	
a.	With regard to the language, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item. <input type="checkbox"/> the international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).
b.	With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international search was carried out on the basis of the sequence listing: <input type="checkbox"/> contained in the international application in written form. <input type="checkbox"/> filed together with the international application in computer readable form. <input type="checkbox"/> furnished subsequently to this Authority in written form. <input type="checkbox"/> furnished subsequently to this Authority in computer readable form. <input type="checkbox"/> the statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished. <input type="checkbox"/> the statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.
2.	<input type="checkbox"/> Certain claims were found unsearchable (See Box I).
3.	<input type="checkbox"/> Unity of invention is lacking (See Box II).
4.	With regard to the title, <input checked="" type="checkbox"/> the text is approved as submitted by the applicant. <input type="checkbox"/> the text has been established by this Authority to read as follows:
5.	With regard to the abstract, <input type="checkbox"/> the text is approved as submitted by the applicant <input checked="" type="checkbox"/> the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.
6.	The figure of the drawings to be published with the abstract is Figure No. 1 <input checked="" type="checkbox"/> as suggested by the applicant. <input type="checkbox"/> None of the figures <input type="checkbox"/> because the applicant failed to suggest a figure <input type="checkbox"/> because this figure better characterizes the invention

Box III

TEXT OF THE ABSTRACT (Continuation of item 5 of the first sheet)

A method of characterizing cells in a subclass of dendritic cells or precursors thereof in a biological sample. The method comprising placing the sample in contact with immunointeractive molecules directed to at least one dendritic cell immunogen (e.g. HLA-DR, CD123, CD11c, CD1b/c, BDCA2, BDCA3, BDCA4, CD16, CD83, CD45, CD40, CMRF-44 AND CMRF-56) and at least one non-dendritic cell immunogen (e.g. CD3, CD19, CD14, CD56, CD11b, CD34) and detecting the presence of one or more dendritic cell immunogen-immunointeractive molecule complexes and the absence of one or more non-dendritic cell immunogen-immunointeractive molecule complexes. An analysis of the cells of the subclass of dendritic cells is performed based on the presence and absence of the above complexes. This method may be used in disease diagnosis by comparing the number of cells in the subset of dendritic cells or precursors thereof with the number of the same subset of cells found in an age-matched non-diseased patient.

A. CLASSIFICATION OF SUBJECT MATTERInt. Cl. ⁷: G01N 15/10, 33/536

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC Int. Cl. ⁷ G01N 15/10, 33/536, 33/574

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

Derwent (WPAT and JAPIO), Medline

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	<i>Proc. Natl. Acad. Sci. USA</i> (1997), 94, 12551-12556, "Dendritic cell ontogeny: A Human Dendritic Cell Lineage of Myeloid origin", Johanna Olweus <i>et al.</i> (see entire document, in particular Figure 1 and page 12555 column 1)	1-2,4-11,16,19,22-28
X	<i>The Journal of Immunology</i> , (1999), 3250-3259, "Survival, Maturation, and Function of CD11c ⁺ and CD11c ⁺ Peripheral Blood Dendritic Cells are Differentially Regulated by Cytokines", N. Kohrgruber <i>et al.</i> (see entire document, in particular page 3251 column 2 lines 1-4)	1-2,4-11,16-17,19,22-28
X	<i>Brain</i> (2001), 124, 480-492, "Two subsets of dendritic cells are present in human cerebrospinal fluid", M. Pashenkov <i>et al.</i> (see entire document, in particular page 482 column 2, figure 1, page 484 column 1, page 485 column 1)	1-11,16-17,19,22-26

☒ Further documents are listed in the continuation of Box C☒ See patent family annex

<p>* Special categories of cited documents:</p> <p>"A" document defining the general state of the art which is not considered to be of particular relevance</p> <p>"E" earlier application or patent but published on or after the international filing date</p> <p>"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)</p> <p>"O" document referring to an oral disclosure, use, exhibition or other means</p> <p>"P" document published prior to the international filing date but later than the priority date claimed</p>		<p>"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention</p> <p>"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone</p> <p>"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art</p> <p>"&" document member of the same patent family</p>
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Date of the actual completion of the international search

3 October 2003

Date of mailing of the international search report

31 OCT 2003

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C (Cont' ation).

DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	<i>Proc. Natl. Acad. Sci. USA</i> (1995), 92, 826-830, <i>Three populations of cells with dendritic morphology exist in peripheral blood, only one of which is infectable with human immunodeficiency virus type 1</i> , D. Weissman <i>et al.</i> (see in particular page 826 column 1, page 827 column 1, Figures 2 and 4)	1-9, 22-26
P,X	WO 03/005972 A2 (University of Pittsburgh-of the Commonwealth System of Higher Education) 23 January 2003 (see entire document, in particular page 9 line 30 to page 10 line 25, pages 12 and 16)	1-11, 22-25
X	<i>The Journal of Immunology</i> , (2000), 165 (11), 6037-6046, "BDCA-2, BDCA-3, and BDCA-4: Three Markers for distinct Subsets of Dendritic Cells in Human Peripheral Blood", A. Dzionek <i>et al.</i> (see entire document, in particular Figures 1 and 2)	1-2,4-17,19-28
X	<i>Cancer Immunol Immunother.</i> (1998), 45, 234-240, "Multidimensional flow-cytometric analysis of dendritic cells in peripheral blood of normal donors and cancer patients", Cherylyn A. Savary <i>et al.</i> (see entire document, in particular pages 234-235, 237-239)	1-9,22-26
X	<i>Cytometry</i> (2000), 40, 50-59, "Simplified Quantitation of Myeloid Dendritic Cells in Peripheral Blood Using Flow Cytometry", J. W. Upham <i>et al.</i> (see entire document, in particular page 52 (Flow cytometry) and page 54 (Evaluation of Myeloid DC Counting Protocol))	1-11,16,22,25
X	<i>American Journal of Pathology</i> (2001), 159 (1), 285-295, "Phenotypic Characterization of Five Dendritic Cell Subsets in Human Tonsils", Kelly L. Summers <i>et al.</i> (see entire document, in particular page 288 column 2 (Leukocyte Common Antigen), page 289 column 1 (Adhesion, Activation and Co-Stimulator Molecules), page 291 column 1 (Phenotyping of HLA-DR ^{mod} CD11c ⁺ DCs Reveals CD123 ⁺ and CD123 ⁻ Subsets))	1-2,4-11,16-25,27,,29
X	BD Biosciences, Reagents Dendritic Cell Identification, Application Note "Peripheral Blood Dendritic Cells Revealed by Flow Cytometry, Identification of CD123+ (anti-interleukin 3 receptor α chain) and CD11c+ dendritic cell subsets", © 2000 Becton, Dickinson and Company (www.bdbiosciences.com/immunocytometry_systems/application_notes/pdf/reagapp3.pdf). (see entire Application Note, in particular pages 6-9)	1-11, 22-26
X	<i>Clinical Cancer Research</i> (June 2002), 8, 1787-1793, "Alterations in the Frequency of Dendritic Cell Subsets in the Peripheral Circulation of Patients with Squamous Cell Carcinomas of the Head and Neck", Thomas K. Hoffmann <i>et al.</i> (see page 1788 column 2, page 1789 column 1 (Gating Strategy), page 1789 column 2 and the Discussion on pages 1790-1792)	1-11,16,22-26

DOCUMENTS CONSIDERED TO BE RELEVANT		
C (Cont' ation)		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	WO 01/27245 A2 (Dendreon Corporation) 19 April 2001 (see entire document, in particular page 6 lines 26-34, example 2, Figures 3A-3D)	1-2, 4-9, 11, 17, 19, 22-26

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No.

PCT/AU03/01040

This Annex lists the known "A" publication level patent family members relating to the patent documents cited in the above-mentioned international search report. The Australian Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

Patent Document Cited in Search Report		Patent Family Member			
WO	03/005972	US	2003022252		
WO	01/27245	AU	78674/00	CA	2385792
				EP	1224262
WO	03/005972	US	2003022252		
					END OF ANNEX